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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/553,049

06/15/2006

Alain Straboni

BEAUMONT-28

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7590

04/16/2008

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EXAMINER

KEMMERLE III, RUSSELL J

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

04/16/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/553,049	Applicant(s) STRABONI, ALAIN	
	Examiner RUSSELL J. KEMMERLE III	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-33 is/are pending in the application.
- 4a) Of the above claim(s) 32, 33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-13, 17, 20 and 22-31 is/are rejected.
- 7) ☒ Claim(s) 14-16, 18, 19 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 10-31, drawn to a method of making semiconductor granules, classified in class 264, subclass 614.
- II. Claims 32 and 33, drawn to a method of making semiconductor ingots, classified in class 117, subclass 11.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are directed to related processes. The related inventions are distinct if: (1) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP § 806.05(j). In the instant case, the inventions as claimed can have a materially different function or effect since the granules of invention I could be used as part of a process other than the making of ingots of invention II, such as making a photovoltaic cell. Furthermore, the inventions as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious variants.

Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above

and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

- (a) the inventions have acquired a separate status in the art in view of their different classification;
- (b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;
- (c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);
- (d) the prior art applicable to one invention would not likely be applicable to another invention;
- (e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected invention.**

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement

will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Newly submitted claims 32 and 33 are directed to an invention that is independent or distinct from the invention originally claimed for the above reasons.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 32 and 33 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

In view of the amendment filed on 30 January 2008 the previous rejections under 35 U.S.C. §112 are withdrawn.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 26 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 26 recites that the plate have a thickness of about 1 to 3 mm, support for this could not be found in the specification as originally filed. The areas identified in the previous response do not appear to support this (Fig 1B and page 3 line 31 to page 4 line 2). The specification appears to only disclose that the plate have a thickness of "one to a few millimeters" (page 3 line 31 to page 4 line 1). If support for this claim is found in the specification and was simply missed the Applicant is invited to identify such support in the response to the Office Action.

Claim Rejections - 35 USC § 102

Claims 10, 12, 13, 18, 20, 24-26 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Stevens (US Patent 5,431,127).

Stevens discloses a method of making semiconductor particles (granules) by filling a mold with a semiconductor feedstock (preferably silicon) which is then heat treated to form the particles (abstract). The step of filling the powder into the mold is interpreted as a compacting step since the smoothing blade as shown in Fig 1 would result in some degree of downward force (i.e., compaction).

With respect to the limitation that the granules are intended to feed a semiconductor material manufacturing melt, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Referring to claim 12, since the holes of the mold are about 1 mm in size (Col 3 lines 65-66) the powder used to fill it would need to be of nanometric or micrometric size in order to fit into the holes.

Referring to claim 20, Stevens discloses that the particle be in the shape of a sphere, which would have a diameter/thickness ratio of about 1 (Col 3 lines 12-14).

Referring to claims 24-26, Stevens discloses that the mold have a plurality of openings each having a diameter of about 1 mm and a thickness of about 1 mm (Figs, Col 3 lines 65-67).

Referring to claim 31, Stevens discloses heating to about 1460°C (Col 5 lines 1-5).

Claim Rejections - 35 USC § 103

Claims 11, 22, 23 and 27-30 rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens.

Stevens is relied upon as discussed above.

Referring to claim 11, 27 and 28, Stevens discloses a specific example of a particle having a size of 30 mils (about 0.76 mm), but does not specifically disclose

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particles having a size greater than 1 mm (Col 3 lines 12-13). However, Stevens further discloses that the invention is not limited to those dimensions (Col 3 lines 15-16), and it would have been within the abilities of one of ordinary skill in the art to create a particle with a size greater than 1 mm by using a mold having larger holes based on the size of the desired final piece.

Referring to claims 22 and 23, Stevens does not appear to get into details of the exact shape of the particles produced, however it would be within the abilities of one of ordinary skill in the art to create particles having any desired shape by adjusting the shape of the holes in the mold.

Referring to claims 29 and 30, as discussed above, the holes in the mold of Stevens is about 1 mm, so the powder used to fill it would have to be smaller than that, however the exact size of the powder used is not disclosed. However, silicon powder of the sizes recited in claims 29 and 30 appear to be well known in the art, and it would have therefore been obvious to one of ordinary skill in the art to select such powders based on their availability and the fact that they would be appropriate to the process of Stevens.

Allowable Subject Matter

Claims 14-16, 18, 19 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Stevens nor the prior art found disclose or suggest a hot pressing step or the

pressure recited in claims 14-16 as steps of making a semiconductor granule, further annealing or doping the granules, or the porosity of the granules.

Response to Arguments

Applicant's arguments with respect to claims 10-33 have been considered but are moot in view of the new ground(s) of rejection.

Double Patenting

MPEP § 804(I)(B)(1) applies only when the obviousness-type double patenting rejection is the only rejection remaining in an earlier filed application that is otherwise in condition for allowance. Since this application is not currently found in condition for allowance the rejection is maintained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RUSSELL J. KEMMERLE III whose telephone number is (571)272-6509. The examiner can normally be reached on Monday through Thursday, 7:00-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P. Griffin/
Supervisory Patent Examiner, Art
Unit 1791

/R. J. K./
Examiner, Art Unit 1791